The Builder.

SATURDAY, DECEMBER 17, 1853.

PADDINGTON, numbering at the last census 46,345 inhabitants, has at length built itself a vestry-hall, wherein to transact the important business of this parish, in comparison with which two or three very respectable provincial cities with noble town halls may be found whose combined business would prove to be less. Some idea of the increase of parochial business here which every year brings with it may be gathered from the fact, that upwards of 400 new houses are taken into rating annually. This prodigious increase is not a new feature in the parish, for during the last sixteen or eighteen years its meadows have been undergoing the brick and mortar transformation to such an extent that the turf-cutter has had to bustle in his work to get out of the way of the carpet-planner. Squares, streets, and crescents have sprung up as if by magic. Nevertheless, the business of the vestry-clerk and his assistants has hitherto been painfully toiled through in a smoky, close, unhealthy room, scarcely more than 12 feet square: once, indeed, before a slip was added to it, that was its exact size, and underneath it at that time was the parish dead-house! The vestry-room was just as insufficient and unwholesome, and one little vestibule for the equal standing accommodation of either barons or beadles who might be forced to wait, completed the unique arrangement. The approach was from a narrow street leading down to the dust-wharfs, and any cabbed or curricled visitor who might make the passage was inevitably drawn down to the salubrious watering-place, and taken all round by the canal beach till he could gain the high road somewhere near Paddington-green. The reason of this airing was, that no vehicle, once drawn up at the vestry-door, could turn round and escape from the street the same way by which it entered without the risk of being upset. As for foot-passengers, the police-station adjoining would frequently form such an attraction to King Mob and Dusty Bob (when, for instance, any esteemed friends were expected out on their way to the police office), that an entrance could only be effected to the vestry premises by dint of a tearing and wearing elbowing through the unsavoury fry.

All this inconvenience had been long felt by some members of the vestry, many of them men accustomed to so much better usage in their respective spheres, that their self-denying labours for the parish deserve praise; and it is to the efforts of these gentlemen, through six or seven years' opposition from those who were satisfied with things as they were, that the erection of the present edifice is to be attributed. We have already illustrated the vestry-halls which have been erected in some of the other metropolitan parishes: so on the next leaf we now give a view and plan of the new building which has been completed for Paddington, and we will add a few particulars for those who like facts. It has been erected from the designs of Mr. Lockyer. The south front, or that next the Harrow-road, has two projecting pedimented wings, connected by a Tuscan colonnade, forming an ample porch, through which an entrance is afforded to a vestibule, 46 feet 6 inches by 24 feet 6 inches. Behind this is the vestry-hall, a handsome wainscotted apartment, 46 feet 6 inches long, 26 feet 6 inches wide, and 27 feet high, extending through the two stories of the building, and having a coved ceiling.

The other apartments on the ground story consist of a committee-room, waiting-room, private room, an excellent fire-proof muniment-room, with offices for the vestry-clerk and his assistants. The upper story, a portion of which is appropriated to the occupation of the resident office-keeper, has been so arranged as to be capable of conversion, at any future period, into increased accommodation, as necessity may arise.

The edifice has been constructed throughout in a substantial and satisfactory manner, by the builder, Mr. Wilkinson, of Horseferry-road, Westminster, who has completed the whole at the amount of the original contract (5,300*l.*). The fronts are faced with white Suffolk brick, and the colonnade is of Portland stone. The cornices and dressings ought to have been of stone also, especially the coins, but are only of Portland cement. The building is situated at the south-west corner of Paddington-green; and being detached, the architect has been enabled to preserve the same character in the four elevations.

Well then, you see, Paddington has built itself a hall,—very creditable to all the parties concerned (barring the cement coin-*stones*), and sufficient for its purposes; and yet we are impelled to ask, why was it not something more than "sufficient?" What is there to care for about the building, to induce an inquiry, or to originate a thought? It is a very convenient building, with a most respectable outside; but we would have had a wealthy community like that of Paddington put up a structure representing them, as it does, in their corporate capacity, which should tell a story to the passer-by, and be deemed by posterity worthy of protection. Remember what the middle classes of the middle ages did in this respect: look all through Belgium, for example, and select, if you like, Louvain, where the population is exactly half that of Paddington. This was restored not long ago, and last year the inhabitants determined to fill the empty niches in its fronts, and ordered two hundred and fifty statues for that purpose! We would not be understood as finding fault: we are simply expressing an opinion and a regret, in the hope that these may weigh with the parish who next erect a vestry-hall.

The village of Paddington, which was once given to Westminster Abbey, and afterwards by Edward VI. to the Bishop of London and his successors, is now one of the most remarkable portions of London. The story of its growth sounds like a fable. In 1801 it contained 357 houses, and a population of 1,881 persons. In 1851 there were 6,519 houses, with 222 in progress, and a population of 46,306 persons. The rates were levied in that year on an annual rental of 390,732*l.*; and in 1852 this had been increased to 410,617*l.* As Mr. Robins remarks, in a recently-published account of Paddington,—

"A city of palaces has sprung up on a bishop's estate within twenty years: a road of iron, with steeds of steam, brings into the centre of this city, and takes from it in one year, a greater number of living beings than could be found in all England a few years ago. The electric telegraph is at work by the side of this iron road. And by means of conveyances, open to all who have any small change, from sixpence to a penny, the whole of London can be traversed in half the time it took to reach Holborn-bar at the beginning of this century, when the road was in the hands of Mr. Miles, his pair-horse coach, and his redoubtable Boy. This coach and these celebrated characters were for a long time the only appointed agents of communication between Paddington and the City. The journey to the City was performed by them in something more than three hours; the charge for each outside passenger being 2s. the "insides" being expected to pay 3s. The delivery of parcels on the line of road added very materially to Mr. Miles's occupation and profit; and I am informed that Miles's Boy not only told tales, to the great amusement of his master's customers, but gave them some equally amusing variations on an old fiddle, which was his constant travelling companion, and which he carefully removed from the green-baize covering to beguile the time at every resting-place on the road."*

The Ty-bourn and the West-bourne (different names for the same brook, probably) have merged into a sewer, but have left their name upon the locality. Nor are other memorials of by-gone times wanting to reward the search of the inquiring student. In the churchyard on the green lie buried, Bushnell, the sculptor of the figures on Temple-bar; the elder Barrett, the painter; Banks, the sculptor; Nollekens; Mrs. Siddons; W. Collins, the landscape painter; and Benjamin Haydon.

If we could, Asmodeus-like, peep into the piles of houses forming Hyde-park-gardens, Hyde-park-square, Gloucester-square, Cambridge and Oxford squares, Gloucester-gardens, Norfolk-crescent, Southwick-crescent, Sussex-square, and Westbourne-terrace, we should find a startling amount of accumulated wealth, and a satisfactory exhibition of elegance and refinement. We should be contented with the impression that would be given, if two or three houses here, with the interior of which we happen to be tolerably well acquainted, were sealed up with lava by a neighbouring Vesuvius for the examination of the antiquaries from New Zealand or elsewhere, who may be seeking in a distant age to know something of the homes and inner life of the English in the nineteenth century. The account, however, would not be worth much, if they drew from these any general inference.

We have said enough to show that the "pretty little rural village of Paddington" is now a very important part of the "great metropolis."

NOTES ON THE HISTORY AND CONDITION OF THE BUILDING TRADES.

MASONS.†

The Roman masonry was not materially different from that we have already described. We have, first, the *emplecton* masonry, derived from the Etruscans. We have next a method described by Vitruvius, in which the builder was in the habit of running up the external facings of the walls, and then filling up the middle space with loose rubbish—a method to which Pliny gives the name *diamicton* (from a Greek word signifying to mingle together), and which is not unknown among the builders of our day. And lastly, we have the *lapidæ quadrato* (ashlar wall), or walls in which stones were used, cut and squared by the chisel. The great walls of Rome were built of gigantic masses of hewn stones, quadrangular, but without cement; and from this the progress was gradual to the polished ashler and cemented walls. The class of masonry termed rustic-work must be of Roman origin. In the temple of Vesta we have an early example of mason-work, in which the stones are bevelled and squared at the joints, but are left rough on the rest of the surface. This style originated, it has been said, in the mere desire to save trouble in smoothing the whole surface; but we need be at no loss to see that the intention was, by the imitation of natural rock, to give an appearance of great strength and durability to the structure. Examples are found in the Roman wall fortifications yet existing in Germany which go to prove that such was the intention.

These descriptions of masonry lead us by degrees to the period when the art reached its climax. In the long walls of Athens the Cyclopean works were combined with perfect regularity of construction. The stones now were

* "Paddington, Past and Present." By William Robins. Hall, Cambridge-terrace, Camden-town.

† See p. 709, *ante*.

so large that each of them formed a cart-load, and were accurately fitted to one another, and held together, not by mortar or cement, but by metal clamps, which were firmly batted into the stone by sockets of lead to which they were soldered. Sometimes wood plugs were used for this purpose in place of metal joints. Such was the method of construction in the walls of the Parthenon and other noble structures of the age of Pericles. The singular nicety of the jointing must not be left unnoticed. So perfect was the workmanship of the mason, that his joints often appeared like a thread; and Pliny mentions a temple in the interior of which fine threads of gold were actually retained by the close joints of the stones. The most common mode employed for ordinary buildings was that which we term rubble work. And the usual method of building rubble was, that each course should be laid alternately along and across. This last method was especially adopted when it was intended to face the walls with slabs of marble, or polished ashlar. This constitutes the next great improvement in wall building, and was particularly general in the palaces of the Roman proconsuls. Augustus boasted he found Rome in bricks, but left it in marble; and it was by such a method as this the change was effected.

The stones used by the Greeks were derived from the quarries of compact limestone which cover the greater portion of the surface of the Peloponnesus and the Grecian Archipelago. This limestone is of a white or rather a bluish-grey colour, so soft as to approach sometimes to the nature of chalk. It is rich in organic remains, and contains large nodules of flint, which the Greeks made use of in their walls. The hills of Attica consist generally of primitive limestone, and the Acropolis of Athens consists of irregular beds of a calcareous conglomerate. The marble of which the Parthenon was constructed, was derived from the quarries of Mount Pantelicus, in Attica (hence *pentelican*, marble). It was preferred to the beautiful Parian marble, on account of its being whiter, and also on account of its vicinity to Athens. In Rome the most ancient buildings were of a variety of limestone from the quarries on the Albun Hills (termed *peperine* by the ancient, and *travertine* by the modern, Italians). The front columns of the Pantheon were of grey marble; the inner ones of red oriental granite, and the capitals and bases were of white marble, out of which material were constructed also the lower seats of the Coliseum, and which was derived from the marble quarries of the Apennines.

The mortar and cements employed were of various kinds. The walls of the temples we have seen, and the best classes of masonry required no mortar. But the rubble walls we have mentioned and those of brick were bound together with a cement composed of lime, mixed with sand, and different kinds of volcanic earths, some of which combinations had the property of hardening rapidly under water, and was much used in the construction of cisterns and fountains. The excellence to which the Romans attained in the use of cements, enabled them to construct walls of very small stones, and to render their colossal aqueducts perfectly watertight, and capable of sustaining pressure. Pliny mentions a Roman law regarding mortar which enjoined, that after mixing the materials with a small quantity of water they were to be kept for years in a covered pit. The proportions, according to the same authority, were, of river sand three parts to one part of lime, and of pit sand four parts to one part of lime; and it was then thoroughly understood that a burning sun or a severe frost were alike injurious in their effects on the combination.

Respecting the tools of the Greek mason, we know that, like the Egyptians, the Etruscans, and the Romans, they were originally formed of bronze. But the steel chisel, the saw, and the hatchet with the chisel at the back, are the commonest tools of the age of Pericles. The use of the saw was necessary for cutting the softer blocks of limestone. And the saw without teeth was applied, as it still is, in the marble quarries of Carrara, to the cutting of marble slabs. Compasses and calipers were likewise in common use; and from a representation on a tomb found at Rome, we see the rule, the plummet, and triangular frame; the wooden mallet, like that of a modern tinsmith; the square; the chisel, like a joiner's mortice chisel; and the calipers, like the most approved fashion of the modern engineer. The square was used in making the semi-circular flutes of the Ionic columns, a method founded on the proposition in Euclid, that the angle contained in a semicircle is a right angle. The lines were drawn on the rules with ruddle or red ochre. The shovel was a hatchet-shaped implement, formed either of one broad plate, or of two iron prongs, and was used originally in husbandry for clearing fields of weeds. Their trowel bore no resemblance to ours; it consisted of a large and flat spoon, or ladle pierced with holes, which was applied to the various purposes of a strainer, in lifting vegetables from water, a skimmer, to clear liquids from froth, as a screen for putting bees into hives, as a riddle for sand or mortar, and as an instrument to plaster walls. It is scarcely necessary to add, that the screw in all its modifications was one of the most valuable mechanical agents of the Greeks and Romans.*

We have thus, as far as our limits will permit, and the materials will enable us, given a cursory glance at the early history of mason-work. In looking at its progress as a whole, we should say that the Romans, if we consider their cements and their scientific methods of constructing aqueducts and sewers, were the best *builders;* that the Greeks, if we look at their exquisite workmanship, were the best *hewers;* that the Egyptians, when we regard their colossal obelisks and their methods of transport, were the best *quarrymen;* and that in point of patient application of limited resources, the aboriginal races surpassed them all. We have dwelt long, longer than we had intended, on these periods of history; but it is a subject to which we would direct the attention of the artisan in our day. It is, indeed, a subject possessed of a strange fascination for the artistic mind, to turn from a contemplation of the history of mason-work in the classical periods of Grecian history, to the contemplation of its ruined monuments in the British Museum. As we enter the hall in which are displayed those noble relics, we see the Parthenon in the days of its stately grandeur almost present to our mind's eye. There are the columns over which Ictinus expended his artistic genius. There are the images which Pericles looked upon, which Plato loved to contemplate. There are the sculptured friezes in that Pentelican marble on which more than 2,000 years have scarcely laid their hands, with its lines as sharp, its curves as perfect, its squares and angles as true, as when the Romans invaded its sacred precincts; as when the Christians converted it into a temple; and the Turks into a mosque. And although ruined and desolate, its influence still remains, to enlighten and instruct the minds of all succeeding generations.

It would greatly exceed our limits to enter on the progress of mason work during the time which elapsed between the decline of the Roman empire and the general establishment of Christianity throughout Europe. And yet there are no more interesting periods in the history of architecture or of the world. We should see a religion professed by a sect of Jews, poor fishermen, carpenters, net-makers, and publicans, gradually spread its beneficent influences throughout the classical regions of Corinth and Thessalonica, of Macedonia, and of Rome itself, where it uprooted at once and for ever the old mythology and the polytheism of Egypt and of Greece. We should see this religion, after being opposed to the death by successive governments, at length professed by a prince of the imperial purple. And then we should see rise up from among its lowly adherents a *Church* at once so powerful and so great, that all history can produce no other instance of similar power and equal greatness. We could speak of the progress of building in Byzantium, where the arts found refuge from the flood of barbarism which now surrounded Rome; depict the elegant construction of the Basilicæ, the palaces, the mosques of Constantinople; regret the melancholy spectacle of the palaces of the Cæsars being delivered up to the plunder of Vandals and of Goths; and, finally, look with feelings of pride to see emerge from the universal havoc a class of structures which, leaving the old civilization far behind, have carried our progress down to the present age; and which so beautiful in their construction, so noble in their design, seemed alone destined to be the monuments of the Christian faith. We are not expected to speak of those moral influences, however, which led to the spread of Christianity; and we shall say but a very few words on the characteristic style of the Christian churches, and of the masons who reared them.*

The principal feature of the Christian style of building is the *Arch.* A true arch is composed of wedge-shaped stones [*voussoirs*], or bricks, which support each other by their lateral pressure. It must be supposed that this species of arch, so extensively used by the Romans, was not known to the Greeks, at least in the early periods of their history; otherwise their copious language would not have been destitute of a proper name for it. Yet Mr. Wilkinson† has shown that the Egyptians were perfectly well acquainted with its principles and methods of construction; and in the woodcut annexed to his description, he furnishes us with a specimen, which he thinks must have been built 1500 years before Christ. The Romans were well acquainted with the arch from the earliest periods of their history. It was the form of construction in their celebrated *cloaca maxima* [large drain], the construction of which is ascribed to Tarquinius, and which were formed of three concentred arches, one within the other. The arch, indeed, forms the most striking difference between Greek and Roman architecture. The Roman arches, it is proper to add, were of the semi-circular form, which characterises the triumphal arches of Titus and Constantine, and the arches of the Coliseum. From that shape its gradual change to the Byzantine form is very perceptible; but we are more at a loss to understand its conversion to the pointed arch of the Gothic period.

The pointed arch came hand-in-hand with the magnificent structures of that period, and no writer has been able to trace with accuracy its previous origin. It has been fancifully attributed to the holy groves of the Celt. It has been supposed to be a copy from the huts made with trees; from the forming of timber buildings; and from the lofty and aspiring lines of the pyramids of Egypt; and that it originated from the method of interlacing semi-circular arches, so common during the Norman period of architecture. Sir Christopher Wren, Horace Walpole, Lord Aberdeen, Britton, and a whole host of "critical inquirers," have entered with infinite gusto into the merits of this vexed question; and, perhaps, the greatest weight of evidence is in favour of the belief, that it was brought from the East by the Crusaders. But, whatever its origin, its effect was sublime. No temples of the earlier nations can compare with the temples of the Christian in point of religious character, those noble and exquisite structures, whose feathery spires, slender, yet graceful columns, the reticulated arches, the traceried roofs, the groined vault, the glass windows of delicate blue and ruby tints, seemed like unto the jewel-built heaven of the Revelation to the Christian in his dreams.

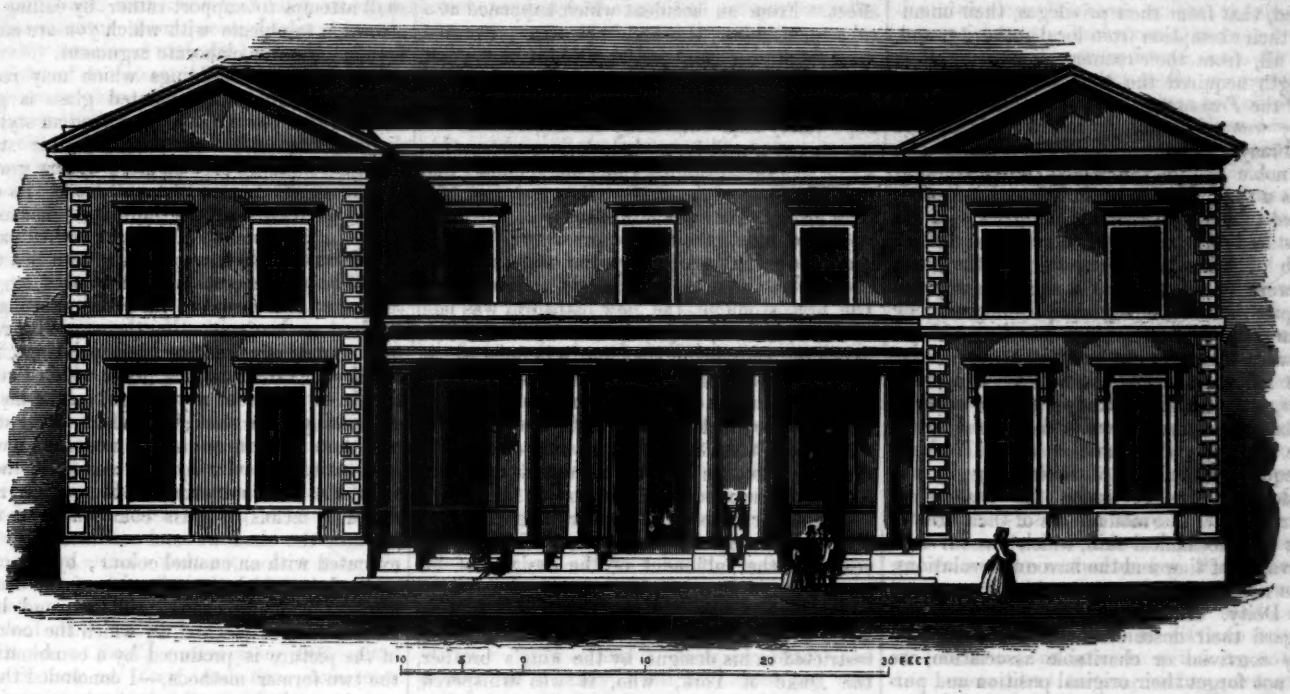
It will be easily understood that the vocation of the builder was then pre-eminently an honourable one. There were amateur architects, as the Bishop of Ely; and amateur masons, as the Benedictine monks. The master of works at Henry VII.'s Chapel was the prior of St. Bartholomew's, whom Stowe calls a great builder; and Abbot Islip was another of the numerous band of churchmen who aided in the erection of numerous structures. We can select no better example of the fruits of the spirit which then animated society than the foundation of Westminster Abbey. It was once, in the touching language of Clifford, "a little monasterie builded to the honour of God and St. Peter, with a few Benedict monks in it

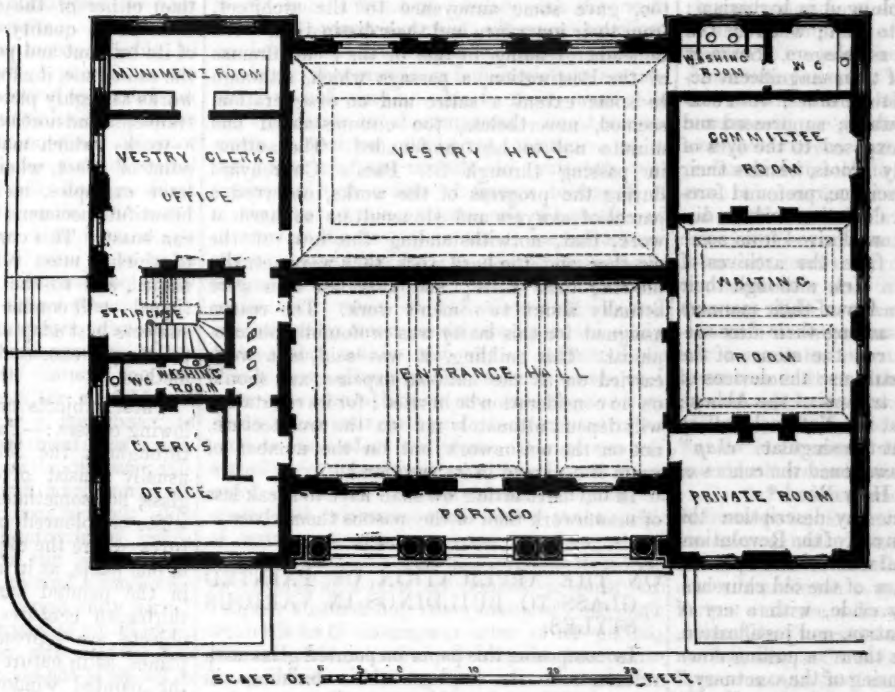
* On these subjects we refer the reader to the excellent contributions of Mr. P. Smith, in the "Dictionary of Classical Antiquities."

* The "Letters to a Lady," in Vol. X. of the *Builder*, may be referred to.

† Ancient Egyptians, Vol. III. p. 321.

PADDINGTON VESTRY-HALL.——Mr. James Lockyer, Architect.





PLAN.

[See page 753, *ante*.

under an abbot serving Christ; on a site overgrown with thorns, and environed with water." How this lovely chapel came to be the Chapel Royal of England, and the tomb of England's kings, was a curious episode in the history of our country. Edward the Confessor was unable to fulfil a vow he made to undertake a pilgrimage to Rome. The Pope granted absolution, on condition that the King should rear a monastery to St. Peter. It is then recorded that St. Peter appeared in a vision to an aged and a pious monk, named Wulsinius, to whom he gave directions concerning its foundation. "There is," said the Apostle, "a place of mine in the west part of London, in which I choose to dwell; which I have consecrated with my own hands, honoured with my presence, and made illustrious by miracles. This let the King, by my command, restore, and make a dwelling of monks, and stately build, and amply endow, until it shall be likened unto the house of God, and to the gates of heaven."* But there was yet another influence we must rapidly glance at, which conspired to render the mediæval masonwork a proper explication of mediæval architecture.

It was during the dark periods of the middle ages that the singular brotherhood known as Freemasons emerged from their mystical obscurity, and rose to the zenith of their splendour. Their principles of association were of great antiquity. It was said by the most enthusiastic neophytes that they could trace their lineage to the flood. Undoubtedly there was in Egypt a secret association to which was confined all abstract knowledge relating to science and art; and the Eleusinian mysteries of Greece derived their origin from the land of the Pharaohs. Still later we see that the disciples of the Dionysian mysteries possessed the exclusive privilege of erecting temples and theatres in Asia Minor; that they used symbols in their intercommunication known only to themselves; that they met at stated periods for convivial purposes; and that they were, according to some accounts, divided into lodges governed by a chief. In the declining periods of the Roman empire, the artificers were bound together in a somewhat similar manner; for they possessed colleges or lodges, where they held their meetings, and studied the principles and practice of architecture. We are uncertain, however, whether these colleges were part and parcel of a general body who acknowledged one supreme head; and accordingly it is rather to the members of the schools for the study of architecture which Constantine established after the removal of the capital to Byzantium that we may look for the parent stock of the Freemasons of the middle ages.

The Church of Rome saw the importance of the growing taste for stately buildings which characterised the body. She conferred upon the builders of the Italian churches comprehensive privileges and immunities. She gave them a right to govern themselves by means of their own peculiar laws and ceremonies. Such proceedings soon produced the desired effect.

* Neale's "Westminster Abbey."

Greek, Italian, Flemish, and German artists hastened to join the great society, and to become initiated into its mysteries. And, it has been conjectured, that from their privileges, their immunities, their exemption from local authority, and, above all, from their roaming disposition, they at length acquired the time-honoured appellation of the *Freemasons*.

Italy was not large enough for this strange confederacy. When the land was studded with those noble churches of which the cathedral at Pisa is a type, they were then forced, or rather enjoined to emigrate to other countries. It has been stated that wherever a missionary of the Church of Rome was seen to raise the cross, there were to be seen also a master mason and his apprentices measuring and planning, cutting and carving, holding lodges, founding abbeys. They were to be seen at work all up the course of the Rhine, in Lorraine and Franche Comté, in Burgundy and Normandy; on the banks of the Thames, on the valleys of the Tweed; within the precincts of the ancient city of York, in the sequestered village of Kilwinning; in the solitudes of Roslin; under the shadow of Arthur's seat. The monuments of their artistic genius and mechanical skill, which have survived the ravages of time and the havoc of revolutions, are the noblest monuments mankind ever reared to the Deity. And although we are accustomed to regard their descendants in the light of a merely convivial or charitable association, we must not forget their original position and purpose. We must never forget that their lodges were the repositories of art and science at a period when Europe was plunged in barbarism; when kings were unable to read; when men of learning were regarded as astrologers. Scarcely a vestige now remains of their magnificent designs. These, by a law of their order, were concealed rather than made public; suppressed and destroyed rather than be exposed to the eyes of the uninitiated. Our only proofs, besides their monuments, of the deep science, profound foresight, and complicated calculations which distinguished the craftsmen, are derived from some solitary parchments dug from the archives of the German monasteries. Yet, although their designs are lost to us, a few of their manners and customs still linger among their descendants. The masons who cut the stones of the palace of Westminster still use the devices of the masons who cut the tracery of the Abbey; and the Scotch hewers at the National Gallery still drop their "mell" at the singular "*chap*" [*Anglice*, knock] which awakened the echoes of the ancient chapel of the Holy Rood.*

We will pass without any description the periods of the Reformation and of the Revolution. A population fired with zeal was let loose upon the carvings and painted glass of the old churches. And a fearful havoc they made, with a cry of purification, and sanctification, and justification, and what not. There was then "a pulling down of strongholds," "a cleansing of the sanctuary," "a destruction of the idols of Baal." Verily, the Puritans were good men most of them, and sincere even in their bigotry; but they did incalculable and irreparable damage to the most exquisite mason-work—of the most noble and graceful structures our country has ever seen. The remnant of this spirit prevented the decoration of St. Paul's, and had previously hampered Wren in his great design.

After the Restoration came what we may denominate the modern school of building. We select in this instance for our illustrations the work on St. Paul's Cathedral.

Early in the year 1674 the workmen began to clear away the ruins of the ancient cathedral, preparatory to laying the new foundations. The pulling down of the old walls, which were in many places 80 feet high and 5 feet in thickness, was an arduous undertaking. At first the men stood above, working them down with pickaxes; while labourers below cleared away the rubbish, part of which was applied to the paving of the streets, and part to the building of the parish churches. The work proceeded in this fashion until the workmen came to the middle tower, which formerly carried the lofty spire; but they quailed before the dangerous task of mounting 200 feet to cast down this ruin. The inventive genius of Wren immediately conceived the idea of attaining the end by means of gunpowder, which was done accordingly with the desired effect. From an accident which happened at a subsequent blast, the architect was prevented from employing gunpowder; and his next great device consisted of the ancient battering-ram. This machine he suspended from a triangle, and kept thirty men constantly beating with it on one part of a wall for a whole day,—an operation which seemed to the workmen marvellously like an utter waste of time. But the great architect knew better. He knew the effect of concussion; he encouraged them to persevere; and at length, on the second day, the wall began to tremble at the top, and fell in a few hours. The first stone of the new cathedral was laid on the 21st June, 1675; it was October, 1694, before the masonry of the choir was finished; it was December, 1697, before divine service was performed in the cathedral for the first time since the fire; and it was not until the year 1710, when Wren had attained the seventy-eighth year of his age, that he laid the highest stone of the lantern on the cupola, attended by his son and the venerable Mr. Strong, the master-mason, who had attended, during the long period of thirty-five years, to the fulfilment of the designs of his great master.

The architect was deceived by the false promises of the king; hampered for want of funds, restricted in his designs by the king's brother, the Duke of York, who, it was whispered, already meditated converting the Protestant into a Roman Catholic cathedral. The workmen, too, gave some annoyance to the architect, from their ignorance and their dissipation. We remember reading in one of the comic dramas of the Restoration, a passage which, although to some extent a satire and an exaggeration, seemed, nevertheless, too circumstantial and minute not to be true-founded. The author, in passing through St. Paul's Churchyard during the progress of the works, observed a parcel of sawyers and stonecutters so hard at work, that, notwithstanding the heat of the weather and the hard work, they were actually blowing their nails; and that ten men were actually about two men's work. The reason assigned for this laxity was profoundly philosophical. This building, it was said, is a work carried on at the national expense, and should on no consideration be hurried; for its reputation will depend ultimately not on the architecture, not on the masonwork, but on the number of years it occupied in its erection!

In our next article we shall have to speak less of masonwork than of the masons themselves.

* See for a sketch of the history of Freemasons in the *Builder*, Vol. ix. No. 441.

ON THE APPLICATION OF PAINTED GLASS TO BUILDINGS IN VARIOUS STYLES.

In composing this paper on painted glass with reference to its employment in buildings in various styles of architecture, I have endeavoured as much as possible to keep in mind practical objects. Many matters, therefore, of interest to the antiquary, will be passed unnoticed, or with a brief allusion to them—my object being, as far as I am able, to supply an answer to the question, what is the kind of painted glass best suited to a building of a given character?

On a question so wide and complicated, it is not only natural that very different opinions should exist, but extremely difficult to ascertain which is the most correct. The inadequacy of language to express ideas so subtle as those of which questions of taste are composed, must ever be an insuperable obstacle to bringing questions of taste to a certain determination by argument; a consideration which is condemnatory of the modern vice of dogmatizing upon such subjects. And the nature of the only remaining tribunal—the concurrent opinion of men of taste—that is of men who have given their attention to such matters, and whose views are respected by others engaged in the same pursuits—of itself sanctions a great latitude of sentiment; the feelings and habits, the education and temperament of individuals, even their natural appreciation of form or colour, all insensibly influencing their opinions on a subject respecting which there exists no definite standard. I am therefore very far from claiming any sort of infallibility for the views I am about to submit to your consideration—views which I shall attempt to support rather by calling your attention to objects with which you are already familiar, than by elaborate argument.

The variety of buildings which may require to be decorated with painted glass is great. Some are in the Greek, or Palladian styles of architecture, others are in the Gothic styles; and each building may be more or less grave or solemn in its aspect than others of its class. Such differences in the buildings demand, of course, corresponding differences in their painted windows. But before entering upon this topic, it will be convenient to declare what I believe to be the best subjects for glass painting, and the best mode of executing them. With regard to the mode of executing glass paintings, I will recall your attention to a paper which I read at this Institute about a year ago, on the methods of painting upon glass;* in which, after stating that there were three distinct modes of executing glass paintings, viz. by the mosaic method, in which the local colouring of the picture is produced by means of glass coloured in its manufacture, the shadows and outlines only being executed with an enamel colour; by the enamel method, in which the colouring of the design is effected by using enamel colours; and by the mosaic enamel method, by which the colouring of the picture is produced by a combination of the two former methods,—I concluded that the mosaic method was the best; because it was, from the nature of the thing, more favourable than either of the others to a display of the translucent quality of glass, and consequently of its brilliant and powerful colours; whilst, at the same time, it afforded the means of executing works as highly pictorial as the windows of the transepts and north chapel of Brussels Cathedral,—works which maintain their superiority in point of effect, when compared with a series of later examples, including some of the most beautiful specimens that modern continental art can boast. This conclusion—for the soundness of which I must refer you to the paper I have named, and to the works of art therein mentioned—will confine our inquiry to what are the subjects best adapted for representation in glass paintings, executed according to the mosaic method.

These subjects may be divided into the following classes:—Patterns, similar to those used throughout the Mediæval period, and which usually consist of ornamental work in white glass, but sometimes of scrolls of foliage, either white or coloured, on a coloured ground. Pictures, where the objects are represented as seen in one plane, as in a bas-relief—such as we see in the painted windows of the twelfth and thirteenth centures; and pictures, where the objects are represented as occupying several planes, as in nature—such as we meet with in the painted windows of the first half of the sixteenth century, and, of course, compositions consisting entirely of such patterns or pictures, or partly of patterns and partly of pictures. To avoid any possible misconception, I should perhaps here state, that any reference to Mediæval examples in this paper, is made only for the purpose of illustration, and not with any intention of conveying an impression that they are fit objects of imitation. Most valuable hints are doubtless to be obtained from an enlightened examination of such examples; but before we think of copying them, we ought to be quite sure that they are worth copying; and I will undertake to say that not one ancient example of painted glass, except, perhaps, those consisting of pattern work, can be considered as a perfect model for imitation. All, with the trifling exceptions I have named, of whatever date, are defective in one way or another, either in composition, drawing, or general effect. Even the finest Cinque-cento examples, which, taken collectively, are perhaps of all ancient examples the least open to criticism, were done at a time when the human figure was but imperfectly understood by the glass-painters. And with regard to the often-expressed notion, that it is better to submit to copies of Mediæval examples than trust to modern invention, permit me to

* "On the Methods of Painting upon Glass." See p. 259, *ante*.

say that a more unjust imputation against the taste and skill of the nineteenth century never was made, or a more complete apology conceived for indolence and incapacity. Whose fault is it, I would ask, that low art, at least in regard to glass-painting, should seem to be almost inseparably associated with what are called Church principles of architecture? Are not the patrons of the art to blame for indolently acquiescing in and sanctioning a mere system of copying, because they have not sufficient energy to study glass-painting thoroughly, and make themselves acquainted with its principles? We may depend on it, if glass-painting, or I may say art in general, had a practical bearing on the affairs of life, instead of only furnishing a means of amusement, we should no more hear of currency being given to such doctrines respecting it, than we now hear engineers advocating our going back to the single-condensing steam-engine, or travellers by railway yearning for a return to the old horse-tracks.

The patterns to which I have alluded do obviously comply with the conditions of the mosaic method in the fullest and simplest manner; for the brilliancy of the glass is altogether unsubdued in these works, and the mechanical construction of the window is in harmony with their design,—the leadwork connecting the pieces of glass either forming an integral part of the pattern or else actually constituting the pattern itself. I may illustrate my meaning by a reference to familiar examples, such as the Five Sisters, at York, and the geometrical pattern works, executed in white glass, so common in the seventeenth century, particularly on the continent, of which engravings have occasionally appeared in the *Builder*.

Turning from these, the works which next appear the most completely and simply to comply with the conditions of the mosaic method, are the pictures of the twelfth and thirteenth centuries; for, of all pictures, these admit of the employment of glass of the most powerful hue, and the least diminish its brilliancy. Here also the lead-work is made conducive to the effect of the design. It is true that in the Cinque-cento style we meet with pictures in which, as in a bas-relief, all objects are represented as occupying one plane as effectively as in a picture of the earlier period; but in no glass paintings is the bas-relief principle of representation effectively carried out with so much *simplicity* as in the pictures of the twelfth and thirteenth centuries. This, I apprehend, is owing no less to the nature of the glass of which these works are formed, than to the composition of the picture. This glass, when compared with the glass used in later times, is remarkable for its apparent solidity—a quality which, without sensibly detracting from the brilliancy of the glass, imparts great depth and richness to its hues. Hence the artists of that early period were able to leave large breadths of glass in their pictures unincumbered with any enamel colour—with which, in the mosaic style, as I have already informed you, the painting of the picture is performed—without incurring the risk of producing a weak or flimsy effect. We all are aware of the fact, that the shields of arms and the panel grounds, which in later years were so profusely adorned with diaper patterns, executed with the enamel brown paint, are in the works of this period usually left quite plain—the artists appearing to rely for effect on the tone and richness of the material itself. So we perceive, on examining a figure in any one of these early pictures, that whilst the deepest shadows are represented in the simplest manner by opaque lines, and the shadows in half-tint by a slight wash of enamel brown, the proportion of the glass left quite clear for the high lights, is much larger than in later glass paintings. That such a simple mode of execution, if applied to a more pellucid and watery material, must necessarily produce only a poor and flimsy effect, may be learnt from the modern copies of thirteenth century glass. But without dwelling on this point, I will call your attention to the composition of a twelfth or thirteenth century picture, as of itself insuring distinctness without the aid of any great breadth of shadow. This is simple enough: it consists in arranging the figures in one line, usually on a bar crossing the picture; in keeping the action of the figures as much as possible in the direction of the plane of the picture, and in insulating and separating the figures by the ground of the picture—a treatment, as you perceive, corresponding with that of an antique bas-relief. And since this treatment is in general more intelligibly carried out in the earlier examples, I think we may venture to ascribe it to the fuller influence of classical art at an early period of glass painting. In addition to this, as a general rule, the colouring of the figures is kept lighter than that of the ground of the panel. Of course these remarks are derived from an examination of a great many examples. I mention this, because I could easily contradict almost every one of them by a reference to particular works. It is from a majority of specimens only that a general principle is to be collected. The subjects to which I have just alluded are necessarily characterised by a certain archaic formality, arising from the stiffness of the colouring, and the simplicity of the design and execution. I have now to direct your attention to subjects of another class, as remarkable for their pictorial effect. I mean the picture glass paintings of the first half, or more correctly, of the second quarter of the sixteenth century. These works are in many respects the very opposites to those just described. Their colouring is harmonious rather than deep, and they are highly finished—peculiarities which I could show to be connected with the nature of the glass employed in these works, which, without being as flimsy and pellucid as ordinary modern glass, is yet very inferior in depth and richness to that of the twelfth and thirteenth centuries. Still these works will be found to comply with the conditions of the mosaic method, after making allowance for their different nature, equally with the works of the twelfth and thirteenth centuries; and I hope I shall be able to prove that they are entitled to equal estimation. Their composition is various, consisting sometimes, as in the pictures of the twelfth and thirteenth centuries, only of a line of figures occupying a single plane; but more commonly of a group—of *foreground* figures, it is true, but which in parts recedes from the eye, the figures not unfrequently occupying in plan the arc of a semicircle, as in some of Raffaelle's designs; and beyond the figures some distant object is usually represented, such as the sky, or a landscape. The picture, therefore, is designed on the principle of representing depth, and, in the best examples, is executed in such a manner as to produce the effect of depth. The means resorted to for this purpose are very simple. First may be noticed, the choice of such subjects as are capable, without a violation of probability, of being represented in a somewhat severe, if not harsh manner: thus a landscape, or a seapiece, a full idea of which cannot be conveyed without representing the graduated tints and soft outlines of nature, was never, at this period, selected as the *principal* subject of a glass painting. On the contrary, when a landscape background is adopted, it is used merely as an accessory, to set off and relieve a group of foreground figures, in which all the interest of the composition centres. And, secondly, we may remark, that all the objects in the picture are represented as if they were seen under the influence of broad sunshine—a mode of treatment the most favourable, not only to a display of bright lights and sharp decided shadows, but to the general transparency of the picture, it being possible by this means to separate the various objects from each other without having recourse to extensive masses of shadow or concentration of light, the use of which, however effective in the works of Rembrandt and other oil painters, is wholly unsuited to the conditions of glass painting, on account of its very limited scale of transparent shade. The heaviness resulting from the adoption of the opposite principle, of concentrating the light in the middle of the picture, and keeping the rest in comparative obscurity, is shown in the upper subject of the west window of New College Chapel, Oxford; in the west window of Magdalen College Chapel, and in a variety of modern works; and the superiority of the sunshine principle becomes apparent on comparing these works with others in which it is adopted, as the windows of the North Chapel of Brussels Cathedral, those of St. Jacques Church, Liege, or the windows of Lichfield Cathedral.

A glance at the glass at Brussels and Lichfield will explain my meaning better than any words I can employ. We there see that the figures are cut out from the background, and the architecture from the sky or landscape, as much by the opposition of light and shade, as by the local colours: and thus the crispness and clearness of a sunshine effect is not only highly conducive to the brilliancy of the window, but is most favourable to the concealment of the leads, which form part of and are wholly lost in the sharply-defined shadows with which the foreground objects are bounded, and even in the background are on a close view not unfrequently absorbed in the colouring, but at all events pass unobserved in the general crispness of the picture, when it is viewed from the proper distance. Of course I am not speaking of the broad modern lead, used in repairs of old glass, but of the ancient leads themselves, which never until almost the beginning of the seventeenth century exceeded $\frac{1}{16}$ of an inch in width. In Cinque-cento glass paintings, therefore, the lead-work forms an integral part of the design, equally as in a twelfth or thirteenth century picture. And these works also evince a thorough compliance with the mosaic system in preserving the translucent qualities of glass. A Cinque-cento glass picture, notwithstanding the power of its shadows and high finish, which entirely save it from the charge of weakness or poverty, is still a brilliant and diaphanous glass picture, owing partly to the crisp treatment alluded to, partly to the care taken to leave considerable portions of the glass, though not such relatively large portions as may be seen in the works of the twelfth and thirteenth centuries, unincumbered with enamel brown. But without going further into the minutiæ of the subject, I will ask any one accustomed to compare glass paintings of different dates, whether in any so high a pictorial effect has been produced with so little diminution of brilliancy, as in the works of the third quarter of the sixteenth century.

It will be perceived, that from this summary I have omitted all notice of glass paintings of the fourteenth and fifteenth centuries. I have done so from a conviction that the nearest approach to an artistically flat style of representation is to be found in the works of the twelfth and thirteenth centuries; and that the nearest approach to an artistically rotund style of representation is to be found in the works of the second quarter of the sixteenth century: and that there is nothing to choose between a really flat and a really rotund style. At first sight there is, I admit, but little difference between a thirteenth century and a fourteenth century picture, in point of composition; but a closer examination generally brings to light various minute differences, tending to show, either that the artists of the fourteenth century were already contemplating a change from flatness to rotundity of representation, or that they did not strictly adhere to their predecessors' rules for insuring distinctness in a flat style. The inconsistency not unfrequently seen in works of the thirteenth century, of representing the figure in relief, but omitting to indicate the recess of the niche in which the figure is supposed to stand—a mistake which perhaps arose from imitating in glass too literally the designs of ancient goldsmiths' work, where, as everybody knows, embossed figures are often stuck on a flat ground, having architectural forms drawn in outline upon it,—is repeated and exaggerated in pictures of the fourteenth century. Indeed, most of the fourteenth century groups that, according to the usual fashion of the day, are surmounted with shrine work, look just like groups painted on flat panels, fringed by way of ornament with spires and crockets; so completely does the apparent flatness of the canopy—rendered no doubt more conspicuous by the increased elaboration of its details—correspond with the flatness of an ordinary panel. And the figures themselves, owing partly to the increased breadth of their draperies, inattention to the principle of insulating them by means of the ground colour of the panel, and a bad selection of the colours of the drapery, certainly do not in general appear at a distance so distinct as the figures in a thirteenth century picture. I there

fore cannot but regard the fourteenth century style of glass painting as inferior to the thirteenth, and the fifteenth century style as inferior to that of the fourteenth. The fifteenth century was evidently passed in the effort to get out of a flat style of representation into a rotund one. It is true that all the pictures of this period appear to be flat, but they are flat in effect only, and not on principle: their flatness is the result of imbecility, not of design. They are designed as much on the principle of depth as a Cinque-cento glass painting, but they do not, like it, produce the effect of depth, because their designers were ignorant of the means of attaining the desired result. As in a Cinque-cento glass painting, so in one of the fifteenth century, the figures are not unfrequently arranged on the arc of a semi-circle, and are not cut out or separated from each other by stiff colour. And that the intention was to represent depth is plain from the representation of distant objects, of sky and landscape, coloured with considerable regard to the hues of nature; but, contrary to the practice of the Cinque-cento artists, the shadows are sometimes misplaced, and are always too weak; and the gradations of colouring, though such gradations might have been as easily made as in Cinque-cento work—the nature of the material being the same in both cases—are not sufficiently attended to. Hence the glass pictures of the fifteenth century, beautiful as they sometimes are in detail, remind one in general of an assemblage of court cards. They frequently produce no other effect, even at a moderate distance, than that of a mosaic composed of strangely-shaped pieces of glass of various colours. I think, therefore, that we may leave the works of the fourteenth and fifteenth centuries as objects chiefly interesting to the antiquary.

Having thus indicated, as briefly as I could, the sort of subjects which appear to be most suited for glass paintings, I will endeavour to show what sort of glass paintings are best suited for particular buildings. And here the real difficulty of the subject may be said to commence; for since no example of contemporary glazing is to be found in any building earlier than the Middle Ages, it is only by analogy that we can arrive at the fitness of painted glass for classical buildings, if we rely on experience as a guide; and in a matter of this sort, I fear there is no guide so trustworthy as experience. It will be admitted, I apprehend, that the earlier Gothic styles are more severe in their architectural character than the later ones; and I think that you will likewise admit, on reflection, that the glass most in harmony with Gothic buildings in the Norman or Early English styles, is that of the twelfth and thirteenth centuries. I have tried for a long time past to discover the reason of this conformity, and have arrived at the conclusion that the harmony between the painted windows and the architecture depends far more on the colouring of the windows than on their design. I have often contemplated the general effect of thirteenth century, of fifteenth century, and even of sixteenth century painted glass, in the windows of a Norman or Early English building, from a distance too great for admitting of my making out the design with any degree of distinctness, and have invariably observed that the colouring of the earlier glass most accorded with the character of the architecture, and that the harmony was the same, whether the windows were almost entirely formed of white glass, like the Five Sisters at York, or were richly coloured, as at Bourges or Canterbury. As might have been expected, I have not met with the same opportunities of contrasting the effect of the thirteenth century painted glass with that of the fifteenth or sixteenth century in reference to its harmony with the architecture of the sixteenth century, but such experiments as I have been able to make have tended to create an impression on my mind, that the glass paintings of the fifteenth and sixteenth centuries do harmonise more completely with the character of the architecture of the fifteenth century than the glass paintings of the thirteenth. However, without pressing the last point, I will venture to express a firm belief that the colouring of a sixteenth century glass painting does harmonize better with the character of a building in the Renaissance style, than that of a thirteenth century glass painting.

In these conclusions I would observe, that I have been influenced by the general effect of the glass painting rather than by its force, because I have remarked that good Cinque-cento glass paintings, which are hardly, if at all, inferior in power to Early English ones, do not in general harmonise with thirteenth century buildings so completely as the windows of the thirteenth century. The inference I draw from these experiments is, that there is an analogy between the colouring of twelfth and thirteenth century windows, and buildings remarkable for the gravity and solemnity of their appearance. And this, when the nature of the colouring of these windows is analysed, will, I think, be found to accord with Sir Joshua Reynolds's views. He says, in his fourth discourse, "With respect to colouring, though it may appear at first a part of painting merely mechanical, yet it still has its rules, and those grounded on that presiding principle, which regulates both the great and the little in the study of the painter. By this the first effect of the picture is produced, and as this is performed, the spectator, as he walks the gallery, will stop or pass along. To give a general air of grandeur at first view, all trifling or artful play of little lights, or an attention to a variety of tints, is to be avoided. A quietness and simplicity must reign over the whole work, to which a breadth of uniform and simple colour will very much contribute. Grandeur of effect is produced by two different ways, which seem entirely opposed to each other. One is by reducing the colours to little more than *chiaro oscuro*, which was the practice of the Bolognian schools, and the other by making the colours very distinct and forcible, such as we see in those of Rome and Florence. But still the presiding principle of both these manners is simplicity. Certainly nothing can be more simple than monotony: and the distinct blue, red, and yellow colours, which we see in the draperies of the Roman and Florentine schools, though they have not that kind of harmony which is produced by a variety of broken and transparent colours, have that effect of grandeur which was intended. Perhaps these distinct colours strike the mind more forcibly, from there not being any great union between them: as martial music, which is intended to rouse the nobler passions, has its effect from the sudden and strongly-marked transitions from one note to another, which that style of music requires; whilst in that which is intended to move the softer passions, the notes imperceptibly melt into one another." Now, if we compare the colouring of a thirteenth century glass painting with that of a Cinque-cento one, we perceive that the colouring of the former consists of an assemblage of powerful, distinct, positive tints, skilfully arranged, but more on the simple principle of a mosaic, than on the more blended principle of a painting; whilst the tints of the latter are less forcible, less decided, and more blended together. I have seen some Cinque-cento glass pictures in which there is no red, and but little positive blue, the colouring being almost entirely composed of secondary tints, and in which the transition from one tint to another is scarcely more marked or sudden than is the case in some of Titian's pictures. These considerations may, perhaps, be sufficient of themselves to justify the opinion that the colouring of an Early English glass painting is more calculated to produce a grave and solemn effect than that of a Cinque-cento one; but in acceding to this opinion we ought not to overlook the fact, that the tone of colour of an Early English glass painting is cool, and that the tone of colour of a Cinque-cento glass painting is warm, and that a cool tone of colour of itself has a tendency to produce a grave effect, and a warm tone to produce a gay effect. If these views are correct, it follows that we ought not only to continue to employ for the windows of twelfth and thirteenth century buildings, glass paintings similar to those of the twelfth and thirteenth centuries, as regards the tone and principle of the colouring, but that we ought to glaze in a similar manner the windows of all other buildings which can be said to possess an air of gravity and solemnity equal to that of a twelfth or thirteenth century building; using, of course, weaker colours, warmer tones, and a more elaborate mode of execution for the windows of buildings in a less severe style. Some people are of opinion, that in no style but the Gothic can so solemn an effect be produced; but it seems to me that the solemn character of a building depends rather on its plan and arrangement than on the style of its details. A Norman cathedral is as solemn as a Gothic one, and parts of the Coliseum at Rome are, I am told, as gloomy and solemn as the aisles of a Norman building. The rule, therefore, might well apply to certain ecclesiastical buildings in the Roman style of architecture, and I see no reason why it should not equally apply to certain ecclesiastical buildings in the Greek style: certainly these buildings, owing to the simplicity of their plan, do not possess the gloomy effect of a Gothic cathedral, but the extreme severity of the architecture imparts to them an air of gravity and solemnity which, I apprehend, is rarely equalled by a twelfth or thirteenth century building of corresponding dimensions.* C. W.

WHAT BINDS THE WORKING MAN?

I am inclined to think that your able correspondent, "C. N." is hardly acquainted with the many tyrannies which forbid the working man's refusal of such quarters as he condemns. They are the mightiest which ever held poor suffering humanity in chains. They are these:—first, want of time; second, want of knowledge; third, want of energy; fourth, want of means; fifth, want of choice; sixth, want of the natural instincts afforded by the organs of sense; seventh, want of help and appeal. What hidden and Herculean source of action does he suppose in a poor working man which is to combat these? Let us take such an one, startled may be into an unwonted sense of danger by the minatory rebukes of death, by the warnings of the *Builder*, or by his own awakened reflections. He has decided on closing behind him the door which has shut in so many hours of sorrow. Can he spare more than a half-day's labour for time to look about him? Can he overpass the short tether of his morning's hurried, his evening's weary walk? Does he know the habitat of every foul nuisance? Has he at his fingers' ends, every approved sanitary formula? I assert boldly, that of our fellow-citizens, three-fourths are deficient in an astounding degree of the ordinary faculty of *smell*. Has he the energy to object to or remedy any source of disquietude he may detect with these blunted organs in the subject of his overhurried choice? Has he the means? Has he a law to compel the man, whose profit-maker he becomes, to give him more than the six superficies of building materials which shelter him? Does he not see all around him living and dying under the same condition? Will "C. N."—honour to him, nevertheless—come forward and do anything for him? Has he anything to appeal to within the four corners of Heaven but the everlasting "law of supply and demand," the law of his last enemy—Death?—a somewhat inverted law in his instance, since supply dictates terms to demand. Nay, let us act upon your correspondent's suggestion; let all the aggrieved and perishing householders of this "Babylon of Fog," march out once and for ever from these dens of death. Have they a Mount Aventine, on which to encamp while they come to terms with their whilom destroyers? Royalty, Parliament, the Executive, Philanthropy, united, vigilant, and determined religious organizations, awakened to the necessity of moral law and order as the basis of dogmatic and evangelistic edifying; education, cheap, free, and universal;—all these will find the evil which they *must*, first or last, and better first than last, *must*,—*must* encounter,—a redoubtable enemy to overcome; and the prisoners that lie bound in his dungeons will require an army to strike off their chains.

The Night is at Hand.

The Marylebone Free Library, at 27, Gloucester-place, New-road, will be opened to the public, we are informed, in January 1854. Its doors will be open gratuitously from 10 a.m. till 10 p.m.

* To be continued.

THE NORTH DOORWAY, ST. MARY REDCLIFF, AS RESTORED.——MR. GEORGE GODWIN, ARCHITECT.

ST. MARY REDCLIFF, BRISTOL.

THE NORTH DOORWAY.

IT has been determined to clear away the whole of the high ugly pews which disfigure the interior of St. Mary Redcliff, and which are so ill-arranged that they accommodate but few persons, and to put up oak sittings throughout the church, with pulpit, reading-desk, font, and screens of appropriate design, under the direction of Mr. Godwin. The altar will be brought one bay westward, as anciently it was, and an ambulatory, connecting the chancel aisles, formed by a screen of oak and glass, to give admission to the Lady Chapel. The font is to stand on the south side of the nave at the west end, and is to be formed of stone and alabaster, with a lofty cover of oak.

Tenders of two kinds were sought,—first for completing the sittings, &c. with comparatively thin bench ends, carved to a certain extent, and buttressed; and, secondly, for plain solid 3-inch ends, left for carving, to be executed afterwards as money could be obtained. The last course was ultimately determined on. The tenders for the works in that way, exclusive of the pulpit, reading-desk, and the stone-work required in the formation of the ambulatory between the altar-screen and the Lady Chapel, were as follow:—

Maggs, Bristol (including sum for contingencies provided for in other tenders)	£1,629	15	0
Hughes, Bristol	1,617	6	6
Bennett, Portishead	1,427	19	2
Ringham, Ipswich (using Memel oak)	1,409	0	0

Mr. Bennett's tender, which provided, according to the specification, for English oak, was accepted, and the works are now being proceeded with.

The funds are to be obtained by subscription. The Vestry voted a small sum, and in half an hour afterwards the individual members of it, including the vicar, Canon Madan, who gave a handsome donation, raised the amount to a thousand pounds. This is the more noticeable and praiseworthy as the majority of them have already subscribed considerable sums towards the external repairs and restorations.

These latter proceed steadily but very slowly. Although they have been long about, and much talked of, comparatively little has yet been done, only a few hundreds a year being obtained for the purpose, and the structure being very large. The south end of the south transept, with its singularly fine pinnacles, is now nearly completed, and looks exceedingly well. The old stone, where sound, has been refaced, and the decayed and removed portions have been reinstated with stone from Dundry, whence the stone was originally obtained for the erection of the church.

For the large three-storied window in this transept, funds for a stained glass window have been raised by the exertions of some ladies of the parish. A design has been made for it, but it is not yet decided on.

Other portions of the church are in a miserable, and even dangerous condition. The tower is gradually going to decay, and the turrets at the foot of it are sadly disrupted. The flying buttresses over the south aisle of nave are in a very dangerous state, especially three of them, which cannot possibly stand as they are much longer; and the three clerestory windows on the south side of nave, west of transept, are also in a bad state. The parapet on the south side of nave is in ruins.

The north porch, for which funds have been provided by the unknown benefactor signing himself "*Nil Desperandum*," is now very nearly completed, and we give in our present number a view of the north doorway, a very elaborate piece of carving. The north porch is full of work, as may be imagined, when we mention that it includes 55 niches; 2,320 crockets, from 4½ inches to 12 inches in height; 311 finials, ranging from 12 inches to 2 feet 6 inches high; and 178 grotesque heads, crouched figures, and enriched corbels; to say nothing of the masses of carving round and over the three doorways.

It will be seen in our view of one of these, the principal, that birds and grotesques are interspersed throughout the foliage: the sitting figures in the lozenges represent the Virgin Mary, Elizabeth, Joseph, the Evangelists, &c. The carving, as we have previously mentioned, has been executed by Mr. Rice, and is a good specimen of work

The wooden doors and iron hinges shown in the engraving are not yet made.

PROVINCIAL NEWS.

Sandhurst, Berks.—The works at the church of St. Michael are rapidly approaching completion. A new aisle, tower, and spire have been added; and the whole of the building has been thoroughly restored, from the designs of Mr. Street, architect. The old fabric, which was of the Early Transitional period, consisted simply of a nave, chancel, vestry, south porch, and bell turret. A new chancel arch has now been built, and the chancel lengthened, thus giving room for four stalls on each side. The west window is composed of four lights, in two couplets, and a circle (octo-foiled) at the head of the arch. The accommodation will be greatly increased, and the church is estimated to hold 217 persons. The works have been executed in a good manner by Mr. G. Wyatt, builder, of Oxford.

Winchester.—The *Hampshire Advertiser* states that the font in the new district church for the parishes of St. Maurice, St. Mary Kalendar, and St. Peter Colebrook was carved by Miss Hornidge, but was the gift of another lady, sister to the Rector of St. Maurice; that the font at St. Thomas's Church, which it had mentioned as her work, was carved by the Rev. A. O. Hodgson, a minor canon of Winchester Cathedral; and that the font in Easton Church was made and presented more than three years since.

Amesbury.—The Church of St. Mary has been restored, principally at the cost of Sir E. Antrobus and his wife, and under the superintendence of Mr. W. Butterfield, architect. Nearly every part of the old church, except the original plan and tower, has been remodelled. The east and west ends are quite new, as is also the end of the south transept. The chancel has been reroofed. The church has been repewed and re-opened. A new font, the gift of a lady, has been added. The woodwork was done by Mr. Fisher, and the pavement by Mr. Osmond, both of Salisbury. The edifice was re-opened on 8th inst.

Malvern.—The church tower being in an unsafe condition, and repeated advertisements having failed to induce builders to tender for its repair, the architect, Mr. Scott, recommended Mr. M'Cann, of Amesbury, to be called upon for a tender, which he lodged. The architect's estimate had been 1,200*l.*; that of Mr. M'Cann was 1,430*l.* the difference being attributed to increased cost of material and labour. The churchwardens at a vestry stated these circumstances, and proposed to obtain a loan from the commissioners under the Public Works Loan Act, to be repayable by small instalments extending over twenty years, and so to arrange that only an increase of a single penny in the pound should be added to the present rate. The vestry, however, after authorising the expense of architect's plans, consultations, &c. rejected the proposition by a majority of four in favour of a twelvemonth's delay. A poll has been demanded. In order to effect some repairs in the exterior and more ornamental portions of the tower at same time, Lady Emily Foley and Lady Lambert had offered to subscribe 300*l.* and various other sums were promised on condition that the parishioners did their duty in the matter.

Wednesfield.—The old church here had a narrow escape from destruction by fire on Sunday before last. In consequence of some piping of a stove having been conveyed into a flue which was supposed to be that of the vestry, but opened beneath the roof, several of the rafters were destroyed, and adjoining beams smouldered by fire. We shall hear more of such accidents with church stoves, we fear, before the winter is over.

Bushbury.—The church here has also been restored. The body of the edifice is entirely new, excepting the chapel on the north side, which has been taken down and rebuilt a little further northwards, to allow of a north aisle, but in other respects as it was originally. The nave and north and south aisles are in the geometrical style, having large windows, open timber roofs, and the interior pillars, arches, jambs, and other dressings and projections of stone. The chancel has been restored, and has been decorated in the interior by Mr. Chittenden, the master of the Wolverhampton School of Practical Art. The tower has also been restored. There is an increase of accommodation both in pews and free sittings. The whole of the works have been carried out from the designs and under the superintendence of Mr. Edward Banks, architect, and the several building works have been executed by Mr. Wullon. The church has also been decorated by the insertion of some new painted windows, and the restoration of some old ones. The west window, which is a new one, in the style of the early part of the sixteenth century, has been presented by the Misses Forster, of Ford Cottage. It contains representations of the four Evangelists. The design was gratuitously supplied by Mr. Charles Winston, of the Temple. The tracery lights are to be replaced. The east window, together with four of the chancel windows and three in the north chantry, have been presented by Miss Hincks. The design for the east window was also furnished by Mr. Winston, aided by suggestions from the Rev. J. L. Petit, and the Rev. H. Moore. The subjects, in six panels, are the "Humiliation" and "The Triumph;" below, centre, "The Crucifixion." On the left, "The Agony in the Garden;" on the right, "Christ bearing the Cross," above in the centre, "The Ascension;" on the left, "The Transfiguration;" on the right, "The Resurrection." The other two new windows in the chancel have been presented by the relations of the late Mr. John Pountney, of Low Hill, and their style is in keeping with the other windows of the chancel: they are illustrative of the two sacraments. A window at the north-east of the church has been presented by Mr. E. Banks. The remaining windows of the chancel, as also those of the north chantry, are restorations in ornamental patterns. The windows were all painted and restored by Messrs. Ward and Hughes, of London. Interest attaches to these windows in consequence of their having been composed of, or restored with, the glass made by Messrs. Powell from analyses of ancient glass, furnished them by Messrs. Charles Winston, and C. H. Clark, and made either by these gentlemen or Mr. Medlock, late principal assistant at the Royal College of Chemistry. An old monumental figure of Hugh de Bushbury, in the church-yard, has been restored and placed in a niche in the chancel, of which he was the founder. The cost of the restoration of the church, exclusive of the stained windows and decorations, will be from 2,400*l.* to 2,500*l.* The work was originated by a resident parishioner, who offered 1,000*l.* towards the expenditure.

Liverpool.—The chancel window of St. Peter's church, Sackville-street, Everton, has been filled with stained glass. The window is about 25 feet in height, by 12 feet in width, and is divided into five bays or lights, united at the top by tracery. The centre light is filled in with a figure of St. Peter, the four evangelists occupying two of the lights at each side. The tracery is filled in with the conventional symbols of the Holy Trinity, and with angels, seraphim and cherubim. The architects, Messrs. Hay, have, we understand, contributed towards the cost of this window. The artist was Mr. John Cairney, of Glasgow. A reredos has been fixed up to the eastern wall of the church. The inscriptions are in gold letters, in the Old English character, on a vermillion ground, upon polished plate glass, as suggested by the architects. Two of the plates were completely destroyed in course of transit from Glasgow.

Rothwell.—The *Leeds Intelligence* states that a mural monument has just been put up in Rothwell Church. It is of the Corinthian order, with pilasters and enriched capitals supporting the pediment, on which arms and crest are sculptured, and is of white statuary marble, upwards of 8 feet high. It was executed at the marble works of Mr. Dennis Lee, of Leeds.

York.—The partial rebuilding and restoration of Askrigg Church (Mr. Dickons, of Durham,

architect) has been entrusted, by the building committee, to Mr. John Holmes, of Bramham, who is also the contractor for the building of the new union workhouse at Sedbergh, in the same neighbourhood.

FINE ARTS IN DUBLIN.

We find that a new "Art-union," with many influential promoters, has been set on foot. As a distinguishing characteristic from its contemporary, the "Royal Irish," and its defunct predecessor, the "National," it has been resolved by the committee not to issue any engravings whatever, but to offer, as prizes, a collection of pictures selected from the Fine Arts Court of the Great Exhibition, and Royal Hibernian Academy.

The project of a National Gallery for Ireland is meeting with the warm co-operation of numbers who have liberally come forward with donations. At present, an exhibition of pictures, chiefly collected from Belgium, and including Slingeneyer's celebrated work, "*The Death of Nelson*," measuring 23 feet by 17 feet, is being held at the Royal Irish Institution, College-street. Many eminent foreign artists have contributed works, and it is to be hoped that the receipts will recompense the projectors.

A FEW NUTS FOR A POPULAR AUTHOR TO CRACK.

1. The anathemas of a single individual cannot balance the admiration of myriads, nor pollute that which has been consecrated by the genius of ages.

2. As "a tree is known by its fruits," so the character of a people is expressed by its visible actions. If Grecian architecture is only "*rotten rags*," what were the Greeks?

3. Invective is not argument. Many a good and noble object has been denunciated and treated with contumely.

4. Eloquence is not invariably the garment of truth. Many a base and utterly worthless object has found a right eloquent advocate.

5. Sound religious faith is no sure index of sound art-appreciation, for a man may have a very good creed and a very bad taste, while, on the other hand, he may possess a very correct taste and a very incorrect creed.

6. Religious zeal is not necessarily promotive of fine-art excellence, for though several really fine art-works have owed their production to zeal in religion, not a few have found in religious zealots their most bitter enemies and most ruthless destroyers.

7. Ornamentative detail, be it ever so beautiful, is not architecture, any more than a ray of light is the sun, or a leaf a landscape.

An Artist.

THE TENTH OF DECEMBER AT THE ROYAL ACADEMY.

The presentation of medals to the successful students in various branches of the Arts took place on Saturday evening last in the Lecture-room, and it being a gold medal year, there was a goodly muster. The president, Sir Charles Lock Eastlake, after a few words to the students, proceeded to say, that many of the works showed much talent. The gold medal for historical painting—the subject "Orestes pursued by the Furies," was awarded to Mr. Charles Rholt; that for historical sculpture, to Mr. Edgar George Papworth; that for architectural design—subject, "A Design for a Wellington College, combining a Military Academy with an Asylum for Veterans"—to Mr. Richard N. Shaw. The silver medals were awarded as follows:—For the best painting from life, to Mr. Joseph Powell; for the best painting from the living draped figure, to the same; and for the best drawing from life, to the same; for the second best drawing from life, to Mr. David N. Fisher; for the third best drawing, to Mr. Henry Garland; for the best model from life, to Mr. E. G. Papworth; for architecture—subject, "The Basement and First Columnar Order of the West Front of St. Paul's Cathedral, to the one candidate, Mr. Charles Arthur Legg; for the best drawing from the antique, to Mr. James Waight; for the second best, to Mr. John H. Banks; for the third best, to Mr. Henry Gale; for the best model from the antique, to Mr. John Adams; for the second best, to Mr. Edward Mitchell; for specimen of sciography, the science of shadows for architectural drawings, to Mr. John Chas. L. Sparks.

After a short address from the president on some of the principal features of the ancient masters in regard to the treatment of the extremities of figures, the meeting separated.

A MOVE IN DUDLEY.

Will you believe it? Dudley! black, sooty, pestiferous Dudley—Dudley, whose bills of mortality exceed those of every other pest-hole in the kingdom (not excepting its good neighbour Bilston, of "cholera" notoriety)—Dudley is at last rousing itself, and beginning to join the move "onward." Political feelings were never less bitter than now: a complete lull has taken the place of those angry dissensions formerly so rife: even the "labour" question has not raised its ugly head in these purlieus; and this has been the time chosen for endeavouring to improve the physical condition of our *iron bound* ones. It has been determined to erect some three or four model lodging-houses; and to do this, they have called in the aid of the "Metropolitan Association for improving the Dwellings of the Industrious Classes," under whose valuable supplemental charter, they have formed a branch association, in whose committee may be found the names of no less than six of the greatest iron and coal masters of the district. Surely this is the dawn of a brighter day!

It is intended to commence with one lodging-house for 65 of the industrious classes, giving them perfect privacy, and all the means of cleanliness possible, with some slight portion of food for their intellectual faculties. All this is to be done for a return of 2s. 6d. per week, and to produce at that rental, a per centage of "six pounds to the hundred."

The site has been partially fixed upon, but more the "little bird" would not tell us.

While they are adopting measures for the relief of operative masons and others, those masons who are called the *free*, in imitation of their glorious progenitors who have dotted the country with its noblest monumental and ecclesiastical remains, have formed a company for the erection of a hall, wherein to celebrate their rites, and have opened their arms widely to shelter and succour other wanderers, namely, the "Post-office," the "Mechanics' Institute," the "Government School of Design" (which, by the bye, really has something of a roof over its head—thanks to influence), the "Museum," the "Board of Guardians," and other public bodies. One out of its three lodges has subscribed 1,000*l.* and the others have put forth their hands also. Lord Ward also takes shares to a like amount, and other miscellaneous sources have borne assistance upon their tributary streams. Still much more is wanted, and it is to be earnestly hoped that all those who have the good of the town at heart, will lend their mites until the topstone is reared in joy.

Q.

INVENTIONS AT THE SOCIETY OF ARTS.

It becomes us to draw more than passing attention to the collection of articles of general utility invented, registered, or patented during the preceding twelve months, now exhibited in the rooms of this society. It will be remembered that by the provisions of the Patent Law Amendment Act copies of specifications under that Act are to be printed, and furnished to the public at cost price, and to scientific institutions, we believe, gratuitously. This is, of itself, of essential service to the would-be patentee,—or, as we should more properly say, *it will be*; for, though the Act became law some fifteen months since, there has been no issue yet in any shape. No arrangement either has been made for any exhibition of the articles themselves. Pending this, a more extended use should be made of the opportunity afforded by this society in their annual gatherings. Thus much cost, both mental and pecuniary, might be spared inventors in obtaining patents for schemes which had been before tried and found wanting. As an instance of this, we think we can give no better illustration than one furnished in the present collection: it is described in the catalogue as "Working of Railways," by G. Stewart, in which it is proposed to have a fixed rack-rail, a corresponding wheel on the engine working into it,—an application suggested while railways were yet in their infancy, by one Blenkinsop, of Newcastle; and as early abandoned from its excess of friction.

In the present exhibition, various means for the prevention of accidents on railways are set forth; amongst them, the "Spondyloid Life Train," by Garvey; the intention being to render the superficies of both ends of the carriages buffers, by the application of air-tight compartments with flexible sides.

There is a brickmaking machine by which, it is said, the clay is tempered and the brick moulded at one operation,—with a result of from 18,000 to 20,000 bricks per diem of ten hours, with a single horse power: it is the invention of Messrs. Sands and Cumming, of Massachusetts. There are, besides, various specimens of patent dove-tailed and hollow bricks, siliceous stone, tiles, and pottery, exhibited by Messrs. Austin, Ransome, and Elliott. Pottery pipes with metal bands, and roads formed of block granite in cast-iron frames; locks, on the permutation and other systems, in some of which it is needful to go through a long course of mental arithmetic before you can arrive at the contents of your strong box; various examples of the application of gas to domestic purposes, drawing-stoves, &c.; Boilesve's calorifere; portable furniture; a registered Devonport, by Allen; and a new application of glass in the shape of cistern-floats, patented by P. Palmer, superseding metal balls, as being more cleanly and economical.*

THE ALBERT-PARK MOVEMENT.

It would appear that the Government have at length manifested a disposition to give a due consideration to this long mooted project, and that there is reason to believe it will, upon certain conditions, be undertaken by the Woods and Forests. Lord Robert Grosvenor had an interview recently with Lords Aberdeen and Palmerston and the Chancellor of the Exchequer, and an official proposition has been submitted, we understand, which assumes a more definite shape than has hitherto been exhibited. The basis of it is, that, in the event of the Government proposing a grant for the formation of the park, the borough of Finsbury would be also required to contribute largely in furnishing the funds, though in a way which would scarcely be felt in comparison to the benefits to be derived. It is rumoured that the Government are not indisposed to grant 50,000*l.* towards the estimate of the cost of the park, viz. 250,000*l.* leaving the balance to be supplied by the borough in the shape of an improvement rate, extending over a lengthened period, which, as the money will not all be required instanter, will not be overburthensome to the ratepayers.

The land to be purchased and taken, according to the Parliamentary notice, is in the parishes of St. Mary, Islington, Hornsey, and Stoke Newington, in all about 409 acres, comprised within a line commencing at the south-west corner of the bridge over the New River in the Green Lanes, near Northumberland House, and thence westward for a distance of 250 yards along the south bank of the river; and from thence south-west, by a footpath leading from the Green Lanes into Hornsey-wood-lane; thence westwards to the bridge over the Great Northern Railway in Hornsey-wood-lane; thence southwards from this bridge by the embankment of the railway, to a viaduct over the road called Stroud-green-lane; thence south-east by the Stroud-green-lane to the junction of the said road with the Seven Sisters'-road; thence eastwards for a distance of 25 yards along the Seven Sisters'-road; thence crossing that road southwards by Blackstock-lane and Highbury-vale; thence eastwards on the south, by property lately belonging to the late R. Percival, and by Newington-lane, or footway, in the parish of St. Mary, Islington; thence eastwards across the Green Lanes, and along the northern side of Paradise-row and Church-street, to the south-western angle of the churchyard of St. Mary, Newington; thence on the western or northern sides of the churchyard to Meadows-street; thence

* The Council have determined to hold, during the Christmas recess, an Exhibition of recent specimens of chrome-lithography and colour printing, when it is intended to show, for the first time in public, the specimens of "Naturselbstdruck," which have been received from Vienna. The Exhibition will be opened on Thursday, the 29th inst and will remain open about a fortnight.

along the street to its junction with Queen Elizabeth's-walk; thence northwards along such walk for the distance of 130 yards; thence crossing the said walk, and eastwards to Lordship-road, and along the said road northwards to the point where the New River is crossed by the Lordship-road; thence westward, bounded on the north by the New River for a distance of 400 yards; thence crossing the said river to the Green-Lanes-road; thence northward along the western side of the said road to, and terminating at, the said south-west corner of the said bridge over the New River in the Green Lanes, near Northumberland House.

The plans will be deposited for public inspection with the parish clerks of St. Mary, Islington, Hornsey, and Stoke Newington, on the 31st of December.

FALLING HOUSES.

A CORRESPONDENT wishes to direct attention to the way in which some houses are being erected in Paddington, especially on the estate known as Westbourne-grove North. He says,—"Last week a house, or rather carcase, in Talbot-road, being a centre one of a block of houses, fell, having been constructed of what is called bricks manufactured on the estate, of the earth procured out of the foundations, and laid in the sweepings of Macadamized roads: the whole block has been shored up as each story was carried up, as also an adjoining one." He complains, too, of "the scandalous state of the roads."——At Liverpool, on Monday in last week, a slight wall in South John-street, against which a considerable weight of corrugated iron used for emigrants' houses appears to have been absurdly supported, fell and killed three persons who happened to be passing.——At Glasgow, in St. George's-road, another wall fell on Saturday week while in course of erection to form the back wall of a building four stories in height: the fourth story was all but completed. The workmen had just left work, and were waiting to receive their wages at a safe distance and so escaped. The foundation is said to have been on a rock, but the wall itself seems to have been built of little better than sand, being composed, it appears, of soft surface sand-stone.——Some weeks since, at East Malling, Kent, great portion of a new church in course of erection there, we are told, fell to the ground. The exact cause our informant had not ascertained. The workmen were ready for the roof, or nearly so, and the centres of the arches had been struck.

THE DRAINAGE OF LONDON SOUTH OF THE THAMES.

INSTITUTION OF CIVIL ENGINEERS.

ON the 6th inst. a paper was read "On the Drainage of the District South of the Thames," by Mr. J. T. Harrison. The district was described, as extending between Battersea and Greenwich, over an area of upwards of 9 miles in length, with widths varying from ½ mile to 2¼ miles, bounded by the river Thames, on the north, east, and west sides, and by the rising ground on the south. Its chief peculiarities were, that the surface was almost entirely below the level of high water mark,—that it was, to a considerable extent formed of alluvial deposit, permeable to, and surcharged with water, and it was, moreover, subject to frequent flooding from the adjoining high land. The present system of drainage was shown to be very defective, but the author expressed his conviction of the possibility of remedying the existing defects, and of taking advantage of the assistance of the rise and fall of the tide, and of other local circumstances, for thoroughly effecting both the cleansing of the sewers and the drainage of the district, by means, inexpensive in themselves, and independent of the casualties of steam-pumping machinery, or of the caprice of ratepayers. The interception of the up-land water, by catch-water drains, was insisted on, and the necessity for it pointed out. The rain water was proposed to be conveyed away by the existing sewers, which would require some addition. The conveyance of the sewage matter from the houses of the district was discussed. This was divided into two stages—the first, from the houses to the public streets, and the second, from the streets to its destination. The means of obtaining the first point were simple, and the stoneware pipes were recommended, as sufficiently good, if of large diameter, and laid properly on a system of separate, rather than of combined drainage. For the second point, Greenwich Marshes being fixed upon, for the temporary reservoirs or recipients of the sewage matter, and the Thames as the ultimate distributor of it, it was proposed to take advantage of the fall of the Thames between Battersea and the Greenwich Marshes, which was stated to be 8 feet at the lowest neaps, 5 feet 6 inches as a mean, and 7 feet 6 inches at the highest spring tides, and by a copious use of Thames water to flush out the main sewer daily. This was to be accomplished, by forming a main sewer 8 feet in diameter, from Battersea to Greenwich Marsh, having the same fall as the Thames at low water neap tides; its invert being one foot below low water, and having a communication with the Thames at each end, so that water from the river might flow through at low water, forming, also, reservoirs for arresting and collecting the sewage, and a canal for receiving the liquid after the filtration or precipitation of the solid matter. This canal, excavated 6 feet below low water spring tides, extending across the marsh, and being connected with the Thames, at each end, with proper gates, &c. so that water, from the river, might flow through it, towards and at low water, leaving it full of pure water, when the gates were shut, on the rising of the tide. The overflow, from the reservoir into the canal, might be 2 feet above the highest low water mark, so as under the most unfavourable circumstances to give that depth for the filtered sewage water and that used for flushing, to accumulate during high water. The question of the applicability of the existing sewers was then examined, and from data afforded by Captain Vetch's sections, it was considered, that they might be made available. The large proportion of 41 miles of open ditches (in 1848) to 30 miles of closed sewers, was urged as a strong argument, for the introduction of an entirely new system.

Notices of Books.

Orr's Circle of the Sciences. W. S. Orr and Co. London. 1853-4.

THE idea of this intended series of little treatises is good, and the form attractive. A preliminary essay, on the nature, connections, and uses of the great departments of human knowledge, is well written. The object is, in twopenny treatises, to bring before the public, slight, yet able and accurate sketches of the whole circle of the sciences; in which object the publishers are to be aided by such writers as Professor Owen, Sir William Jardine, Professors Ansted and Tennant, and other men of note. The old treatises of Lord Brougham's "Society for the Diffusion of Useful Knowledge" were a sort of antetype of the present series, which, however, is of a still lighter, cheaper, and more popular description.

The Chemistry of Common Life. By James F. W. Johnston, M.A. No. 1. The Air we breathe: the Water we drink. Blackwood and Sons' Edinburgh and London. 1853.

IN a series of sixpenny treatises the chemistry of common life, a subject which teems with interest and utility to every human being, is here to be discussed by a man of science, versant with his subject, under attractive titles, such as,—The Bread we eat and the Beef we cook,—the Beverages we prepare and the Liquors we consume,—the Narcotics we indulge in (treated of, of late, in *Blackwood's Magazine*), the Odours we enjoy and the Smells we dislike,—and so on. In the number now issued there is both strictly accurate science and popular and simple treatment; and, moreover, there is the freshest information, and the fruits of some original reflection and research. The work is dedicated to Sir David Brewster, as a friend of the author.

The Human Hair; popularly and physiologically considered. By Alexander Rowland. With Illustrations. London: Piper, Brothers, and Co. 1853.

CONSIDERING the recent starting and successful progress of "the Moustache Movement," which it incidentally advocates, this is a well-timed and a really interesting and curious production. It is the fruit of more than fifty years' *devotion*, shall we call it, to the human hair,—a devotion well rewarded, we should think, in a pecuniary sense, as it now seems to have been in a sense of somewhat higher significance. "Rowland" is already a "household word"—unctuously and cosmetically speaking,—and he is now likely to be so more than ever. One of his chapters comprises "A Plea for the Beard and Moustache," illustrated by a series of portraits, in which the nobility and dignity of aspect displayed in the hirsute adornments of the heads of Leonardo da Vinci, Godefroid Duc de Bouillon the Crusader, and the Lord Seymour of Sudeley in 1549, contrast strikingly with the scraped-pig-looking chins of more modern notables.

Considering the hand we had in starting "the Moustache Movement," we really deserved some little better treatment than we receive in this special chapter; in which, while every publication that *followed* in our footsteps is quoted and named, our own early remarks are appropriated, *verbatim et literatim*, without either quotation or acknowledgment. So it is, however, in many instances, with the *Builder*. As a pioneer to improvements and movements of various descriptions, it is often *so far a-head* of its compatriots that it gets *out of sight altogether*, or "looks small in the distance," as Coleridge says of men a-head of the multitude; while its followers march up *into sight* from behind in imposing numbers. The very name by which the present movement is known, viz. "the Moustache Movement," was stamped upon it in the outset, after due consideration, by ourselves, as one which, though not *fully* indicative of our aim and object, was much more likely to obtain for the movement a favourable consideration with the public, in the outset, than such a one as "the Beard Movement," which would have been more strictly correct.

There are fallacious arguments against wearing the beard and moustache which ought at once to be noticed and put down. Some point to the beautiful and rounded smoothness of the female chin as a sufficient contradiction to the assertion that nature intended the beard of the masculine gender as a protection against exposure. Now, on the contrary, we think the beard affords the strongest possible evidence that nature deliberately intended the *man* to submit to *all* the exposure incidental to human life, while the unprotected face and bosom of the woman speak in the plainest possible way, in the language of her Creator and of her husband's,—deal gently with her—shield and protect her: whilst you must brave the elements in her behalf, the penetralia of the temple of domestic felicity,—the "inner choir" of the "angels," as good old Jacob Behme, now rising into note in fashionable circles, would have said,—or, to come down to more matter-of-fact ideas of every-day life,—the sheltered roof of home made comfortable for her by you her sturdier and more protected companion, is her special dominion. This language of nature we would particularly desire to bring before the "strong-minded" and occasionally, too (as in this case is fitting), the strong-bearded, women of America or any where else.

Miscellanea.

TELEGRAPHIC PROGRESS, MAGNETIC AND ELECTRIC.—The extensive line of magnetic telegraph, designed to bring Cork and Queenstown into instantaneous communication with Dublin, Belfast, Liverpool, and London, has now approached completion, the only work of any consequence yet unfinished being a small portion of the line between Port Patrick and Dumfries, on the Scottish side. The line is quite complete from Cork to Dublin, and messages have been transmitted. Owing to the variation of time, messages from London will arrive at Cork a very considerable time (some twenty minutes, or half-an-hour, if we mistake not) *before* the time, or hour, of despatch from London. A message sent off at four o'clock in London, for instance, will arrive at Cork by half-past three, or twenty minutes to four, sufficient time for a few odd tricks on 'change or so. We hardly think the public are as yet quite awake to the immense power and undue advantage with which the telegraph must play into the hands of those who work it, or who have the priority of access to it.——The British Electric Telegraph Company, we understand, is to be merged into a new company, called the "British Telegraph Company," with a capital of 300,000*l.* in 20*l.* shares, on which the deposit is to be 5*l.* per share. The proprietors of the old continue their interest in the new company, to which the patent rights, wires, instruments, offices, and other property are made over, and which is incorporated by Royal charter, limiting the liability of the shareholders. It appears the lines owned by this company are already 600 miles and upwards in length, passing east and west from Liverpool to Goole, through every manufacturing town of importance in Lancashire and Yorkshire, and thence northwards through the coal districts to Newcastle and Carlisle, and by the western ports to Glasgow. The directors state that they will be enabled, with the experience now obtained in the erection of telegraphs, to construct a complete telegraphic system over the most remunerative portion of the country for 160,000*l.* They point attention to the fact, that the receipts of one company in this kingdom, for telegraphic business, exceeds 94,000*l.* per annum, although the telegraphic system of the country is as yet so undeveloped.

The Iron Trade.—The recent declaration of a rise in price of 20s. it appears has been made in direct "opposition to the views of some high in influence." The speculators flatter themselves that their renewed gambling scheme will not be interfered with "by any disturbance among the workmen, in the face of a falling market for all kinds of provisions." Nevertheless, and falling market notwithstanding, the workmen employed at the Ebow Vale Works of the British Iron Company have already struck for an advance of wages, and the result has been the furnaces are blown out. All sorts of reasons are being raked up in order to justify the move upwards, such as "wonderful prospect," "overwhelming demand," &c. and it is positively stated that there is a determination to announce a second rise of 20s. a ton at the next quarterly meetings. Meantime, it appears that already "many manufacturers of iron hollow-ware have made known to the merchants their embarrassment occasioned by the recent advance in the price of iron, and the great difficulty which they feel in fixing prices. This course," it is added, "has been rendered still more necessary in consequence of the opinion, now very generally entertained, that the ironmasters contemplate making a still further advance of 20s. per ton." As for the brilliant prospect, although the trade might confidently anticipate a well-sustained prosperity were it not for the gamblin g speculators who infest it,—let us note, in respect to exports, what a Liverpool authority, the *Standard*, says:—"Last week we showed that the price of pig-iron was much too high, from two different considerations,—first, that there were 25s. per ton *against* shipments to the United States; and, secondly, 30s. per ton *against* French shipments, after allowing for the reduction of duty under the emperor's late decree! and, lastly, as a natural consequence, the exports from the Clyde had fallen off something like 8,000 tons per week. We have again to notice the like reduction, the exports for the past week having been only 9,100 tons, against the usual average of 16,000, showing a falling off of about 6,900 tons, which would have been even more but for the shipments to France, amounting to something near 2,000 tons, which, it must be borne in mind, were bought before the present high price, but kept back until the issue of the imperial decree; so that when the French purchases are cleared from the port, we shall probably have a falling off in the exports of from 8,000 to 10,000 tons per week, as *the present price puts a veto upon all exports, notwithstanding the late advance has taken place in consequence of large speculation, in anticipation of heavy exports to France!*"

The Architect of Heriot's Hospital, Edinburgh.—At the last meeting of the Scottish Architectural Institute, a letter was read from Mr. Alex. Black, presenting a literal copy of the contract entered into, in 1631, between the then Governors of George Heriot's Hospital and William Aytoune to act as master mason of the hospital. This contract, the donor thought, went far to show that at least many of the details of the building had been intrusted to Aytoune, the contract binding him to "devyse, plott, and sett downe quhat he sall think meitest for the decorment of the said wark and pattern thereof, and alreddie begun, where any defect beis fund, and to mak with his awin hands the haill mewildis as weill of Tymber as of Stane, and prosequite and follow furth the modell fram and building of the said wark."

North Oxfordshire Archæological Society.—The first general meeting of this new society, for reading of papers, was held on Tuesday in last week, in the Mechanics' Institute, at Banbury, when there was a good attendance, including many ladies. Various articles of archæological interest were exhibited. The Mayor was voted to the chair, and the Rev. P. Hookins read a paper on the uses of archæology; the Rev. J. W. Hewett, of Bloxham, one on monumental slabs; Mr. T. Beesley, one on objects of study, and on the Roman coins found at Evenley. The *Banbury Guardian*, of 8th inst. gives reports of these papers, and of the remarks made on each.

Naval Architecture: the Greatest Ancient and Modern Ships.—At the recent meeting of Civil Engineers, in the paper read on ocean steamers, was the following statement:—

	Tonnage. Tons.	External Bulk. Cubic Ft.
Ptolomæus Philopáter's ship ...	6,445	830,700
Noah's Ark.....	11,905	1,580,000

A few modern ships were contrasted with these, viz.—

Great Western	1,242	161,100
Great Britain.....	3,445	448,570
Arctic (American packet)	2,745	356,333
Himalaya	3,528	457,333

and, calculated by the same rules, taking the dimensions given in the prospectus of the Eastern Steam Navigation Company, their

Proposed iron ship will be	22,942	2,973,600

Thus the new ship is just double the size of Noah's Ark.

Tiverton Town-hall: Accident.—For some time past the roof of this hall has been in a very dilapidated condition; so much so, that it was found necessary, among other expedients, to remove the heavy chandelier suspended from the ceiling. It was still apparent, however, that the roof was in an unsafe condition, and, in order further to protect it from falling, a piece of timber was erected in the centre of the court. Cracks were visible along the whole length of the ceiling; but nothing to excite particular alarm occurred till towards the close of Thursday in the week before last, when, from the crowded state of the County Court, the beam gave way and fell towards the judge. A general rush was made to the doors, it being feared that the whole of the upper part of the building was falling in. Many persons received severe bruises.

Drainage of Lambeth.—On 7th inst. a deputation from the ratepayers of Lambeth waited upon the Home Secretary to solicit his lordship to introduce, into the Bill which he has promised to bring before Parliament next session, the representative system, to enable the ratepayers to have power at the board of the Commissioners of Sewers, and a voice in the distribution of the rates. His lordship intimated his intention to introduce the representative system. Mr. W. Williams, M.P. proposed the carrying out of the metropolitan drainage scheme by a modification of the system which we pointed out some time since for the speedy realisation of many great works without waiting for money in hand to begin with. He suggested the issue of exchequer bills at 3 per cent. interest payable in fifty years by the ratepayers.

The Print-room, British Museum.—In a late number of the *Builder*, a correspondent, "D." is pleased to state that the numismatic and print collections in the British Museum can only be seen by the friends of the heads of these departments. Being a collector of prints and not of coins, I make no observation on the former, but may be permitted to inform "D." that perhaps the most valuable portion of the collection in the print-room consists of early engravings, some unique, and many, from age, of so fragile a nature that if exposed to the indiscriminate handling of the merely curious, they would certainly perish. If, however, "D." can procure from any person known at the print-room or as a collector a note that he may be so far safely trusted, he will find the head of that department most ready to assist his views. True it is that the public, in justice, should have the means of seeing these precious and instructive specimens, much, it may be hoped, to the benefit of their taste; but the Government, always parsimonious as regards art, refuses or delays to provide a gallery for their safe exhibition under glass, or even to sanction the purchase of inexpensive duplicates of the rarer specimens, sufficient for the use of the students.—A Friend of Art.

Manchester Free Library.—The report by Mr. Edwards, to which we have before referred, is a very interesting document. The issue of books during the first year has amounted to 138,312 volumes,—61,080 from the reference department, and 77,232 from the lending department. The greatest number of volumes was issued in October and November, and the least in May and June, when precisely the same number were issued in both of these months. On the average, every volume in the library was issued six times in the course of the year. Each volume on theology has had an average issue of somewhat more than four times; each on philosophy six times (the fair average of the whole, be it noted); in history nearly five times; in law, politics, and commerce, about one and a half times; in sciences and arts, nearly seven times; and in literature and polygraphy, more than nine times. The report is full of curious particulars.

The Decimal Coinage Question.—Dr. Bowring, since his return from India, has been urging on the public attention, at Liverpool especially, the advantages of a reform in £. s. d. The Liverpool youths, bored with all those "compound" operations which their friend Dr. Bowring assured them would be discarded under the decimal system, received the intelligence with enthusiasm, and will certainly not lose sight of it hereafter.

Iron Chapels, Stores, &c. for Australia.—The demand for iron buildings is constituting a new and extensive branch of manufacture in this country. Several cast-iron churches, already made for the colonies at Clift House, Bristol, are now to be followed by a dozen iron chapels, to be exported to Australia by the same maker, for Roman Catholics who have ordered them.

The Liverpool Timber Trade.—Messrs. Holme, Slater, and Crook, in their monthly circular, state that the arrivals into the docks of the Mersey, with timber, during the past month, were—88 vessels, 57,752 tons, against 44 vessels, 42,261 tons, for the same month in last year. Although the supply of Quebec pine has been large, the demand is equivalent; but stocks are below those of former years.

Reduction of Wages: Strike of Carpenters and Joiners.—Recently 450 carpenters and joiners left Messrs. Mare and Co.'s ship-building factory at Blackwall, in consequence of that firm proposing to reduce the rate of wages from 6s. 2d. to 5s. 8d. a day. Since the strike Messrs. Mare and Co. have offered to pay the 6s. 2d. if the men leave off at half-past five. They would thus be required to work one hour and a half more each day.

Drags.—Your correspondent, "Time-saver," has not made the tour of the northern part of England and of Scotland, or he would have seen that levers for the drags of omnibuses, &c. are placed exactly in the same excellent position which he so strongly approves of. We have had them here (Manchester) for some years, and in Scotland, perhaps, longer than we have had them.—H.

The Jessop Monument.—Mr. J. B. Robinson, a sculptor, requests us to say, touching our paragraph last week, that the accepted design for the proposed memorial was executed by him in accordance with instructions received from the committee, which he was not at liberty to deviate from. A design was made by an architect, but his was preferred. Our opinion of the design, of course, remains the same. The lithograph, he says, does not do it justice.

The Magee Presbyterian College, Derry.—A site for this college has been obtained facing the Foyle, and not far from the city, and estimates are to be forthwith called for by advertisement, the design having been already selected in accordance with the opinion of the architect of the Irish Society; and Mr. E. P. Gribben, the successful competitor, having, as we are informed, his plans and specifications prepared.

Hexham Abbey.—The slaughter-houses and pigsties built over the ruins of the chapter-house of Hexham Abbey Church are being cleared away, and the workmen have brought to light the remains of what appears to be a cloister at the end of the south transept. The work is being prosecuted at the expense of Mr. Beaumont, M.P. lord of the manor and lay rector.

Widening the Streets: Piazza Foot-pavements.—A correspondent, who modestly styles himself "A Humble Mechanic," suggests that the roadway of Newgate-street, or any other equally crowded thoroughfare, might be practically widened by shelling out the front part of the line of shops into a roadway about the breadth of the ordinary pavement, and throwing the latter into the carriage-track, while at same time providing a covered way for foot-passengers. What would the shopkeepers say?

Society of Antiquaries, Newcastle-upon-Tyne.—A meeting of this society was held on Wednesday in last week, Mr. John Fenwick in the chair, when various business was transacted, and a short paper, on Ancient Repairs to the Castle, read by Mr. W. H. Longstaffe, in which were some items as to wages in the time of Edward III. In 1357 a fall in wages had taken place, in respect to which it appears, that in November the carpenters and masons had fivepence a day, or half-a-crown a week; in the March following, fourpence a day, or 2s. 1d. a week. The labourers suffered a reduction from 1s. 9d. to 1s. 3d. The slater was paid by the rood—18s. per rood. The blacksmith was paid by weight, receiving sixpence per stone. The masons paid twopence a pair for gloves, and the candles consumed cost three halfpence per pound. Mr. Richardson stated that a volume of "Transactions" would be ready for publication on 1st January, embracing the Northumberland Muster Roll, and papers by Mr. Potter, Mr. Hodgson Hinde, Mr. William Dickson, &c. Dr. Bruce stated that an engagement had been entered into with Mr. Utting, engraver, for the execution of the woodcuts ordered at last meeting, to illustrate the catalogue. Mr. Clayton said, he believed the dean and chapter of Durham would copy the example of the Newcastle Society, and have their Roman inscriptions engraved.

Intemperance.—The amount of habitual intemperance to be met among workmen of all grades is perfectly fearful, and is an inseparable barrier against their improvement, moral and material. To some extent it may be attributed to the prevalence of the fallacious idea that drink, *i. e.* beer is necessary to them on account of the nutritive character of that beverage. Liebig has shown that this is very small indeed. Of its noxious properties we have full evidence: this has been demonstrated by actual experiment, and any one may test it: the greatest amount of continuous physical efforts and exertion can be gone through on water: this has been proved in the hayfield and in men under training. I believe that, physically and morally, a better and healthier race of men will never arise until all stimulating drinks (*i. e.* beer, wine, and spirits) have been wholly abandoned as *unnecessary and injurious.*

A District Surveyor.